

The claims are amended to remedy the U.S.C. 35 112 rejections and the other issues cited by the Examiner. The inventor sincerely appreciates the Examiner's comments and descriptions of these rejections for each of the claims.

4) U.S.C. 35 103(a)

An objective of the present invention is the systematic generation of item descriptions so that interchangeable items can be identified by single level database queries with single string arguments. Item descriptions are critical for ordering the correct items from suppliers. Many suppliers provide descriptions of the items in electronic catalogs. However, most are designed for human interpretation. In attempts for systematic generation of descriptions, industry organizations, e.g. RosettaNet, have standardized classification trees so that items can be categorized. The resultant descriptions have multiple arguments and complex database queries must be constructed to determine if two items have the same characteristics so they may be used interchangeably or if an item meets desired specifications.

The present invention discloses the encoding of an item description using a classification tree so that items that have the same characteristics encode to the same string. Given the characteristics of an item, the encoding of the item description results in a well formed string that permits organizations that share the same classification tree to share encoded descriptions. As a string, the encoded descriptions can be stored in databases where queries can be made with single string arguments to determine items that match the encoded description. With shared encoded descriptions, correct items that match descriptions can be ordered by part numbers from the suppliers. Suppliers can provide encoded descriptions in their catalogs so that customers need not encode the descriptions. The encoded description can be used to order an interchangeable item from another conforming supplier. Hence, the supply base is more efficient and correct items are ordered.

The claims describe comparison of the encoded descriptions to claim the interchangeability of items with the same encoded descriptions.

The item description as a structured string provides the capability for selecting items that match some characteristics while ignoring others. The SQL database with wild cards is well suited for this application since the query argument is a single string.

The encoded description comprises a compact string encoding the classification of the item (the selection of branches from the root node to the leaf node) concatenated with a compact string encoding the parameter values required by the leaf node of the classification tree to complete the description of the item.

The present invention is not anticipated by Blutinger or Brathwaite or Kavanagh.

The present invention is not claiming the use of a classification tree to classify an item. An element of the invention is the generation of a compact string that encodes the traversal of the classification tree in the process of classifying the item.

A) Blutinger teaches the use of a classification tree to categorize items to separate items into groups with similar characteristics to minimize the searching for an item. Blutinger provides a three level grouping where each level is assigned a name. For example, Frozen Foods contains frozen breakfast/breads, frozen desserts/topping, etc. Where frozen breakfast/breads contains frozen bagels, frozen breads, frozen breakfasts. (Figure 2-A) Blutinger is typical of prior art where the catalog is designed for navigation by humans
10/602,301 Compact Item Descriptor, Catalog System and Item Part Number Validation Patent Application
Confidential N. K. Ouchi Page 2 of 19

and the description of an item does not contain an encoded description of the classification process. Hence, with Blutinger, given an item description, a human must navigate the classification for each use of the catalog.

Blutinger assigns a commodity code to a leaf; this use of a commodity code is quite different from the present invention where the term commodity code describes the encoded sequence of fork nodes to classify an item rather than an arbitrary assignment of a code to a leaf. The "commodity code" in the present invention is better described as a "classification code" not to be confused with Blutinger assignment of a code to a leaf. (Col 3, lines 19-37)

Blutinger provides for human comparison of item descriptions (Col 9 line 63 – col 10 line 15 and col 11 lines 28-63) where the UPC is compared but failing that, human judgment is required; this is not the automated comparison by a database in the present invention.

Blutinger provides for the storage of human readable item descriptions in a database. This is well known in the prior art; the present invention provides for item descriptions that are compared and selected by databases and other automation.

As cited by the examiner, Blutinger lacks the key elements of the present invention: labeling each branch or leaf with a character or sub-string that distinguishes each branch or leaf, encoding the classification of an item by systematically appending the labels of each branch traversed and the label of the leaf, defining a set of parameters for each leaf to complete the description of the item, ordering the parameters for each leaf, encoding the parameter values of the item by encoding the values as strings of defined length and concatenating the string in the ordered sequence, generating the compact descriptor for the item by concatenating the encoded classification of the item with the string of encoded values, so the resulting string is unique to all items that share the same classification and parameter values. The compact descriptor can be stored in a database field and queried with a single string argument to locate items that fit the description. With SQL wild cards, partial matches are located in a single query. Catalogs are easily automated and item descriptions shared by all that use the same classification tree.

B) Kavanagh teaches a classification tree with a set of parameters at each leaf to further specify an item. While Kavanagh displays the name of the branches and leaf of the classification, Kavanagh does not save the string of displayed names as means to re-access the leaf without repeating the classification process. Kavanagh does not have any objective transferring the classification information to another system as a means to transmit the description of an item. Kavanagh does not label each branch and leaf at each fork with a character or sub-string in addition to the class names. (Column 34 lines 31-36) Kavanagh does not generate a compact string to encode the classification of an item. The coded, short length labels of the present invention minimizes the total length of the resulting compact item descriptor. Kavanagh does not have as an objective, a compact string encoded to represent the classification of an item. This feature is absent in the prior art and not suggested by the prior art.

Note: the Examiner's reference to Col 70 lines 31-34 does not appear to be applicable to the discussion.

Kavanagh does not teach the ordering of the parameters at a leaf for external use and the specification of sub-string lengths to encode the parameter values for an item as a string to

complete its description. Kavanagh (Col 54 line 63 – Col 55 line 40) describes the encoding of control blocks describing the space in storage for a string. The present invention does not claim original disclosure of encoding information into ordered blocks but claims the encoding of parameter values for a leaf as an element of a compact item descriptor. Representation of the encoded values of a leaf as a string that is an element of a compact descriptor to describe an item is absent in Kavanagh, the prior art, and not suggested by the prior art.

Kavanagh describes a multiple argument search of the database to identify candidate items. (Col 77 lines 21-28) The prior art provides for multiple argument queries but none provide a single argument search of the present invention. Kavanagh discloses the decomposition of an item part number into elements including the supplier suffix where the separate elements may be processed (Col 79 lines 22-30). The present invention provides for modifying the supplier part number in response to the manufacturing process requirements and for single argument query of the part number including aliases with supplier suffix or with SQL wild cards.

Kavanagh does not teach the concatenation of the commodity code derived by the classification of an item to a leaf with encoded parameters for the item at the leaf to form the compact item descriptor. Representation of the classification and parameter values of an item as a string is absent in Kavanagh, the prior art, and not suggested by the prior art.

Kavanagh does not teach comparing the compact item descriptor of a first item with that of a second item to determine if the items are interchangeable. Comparison of the representations of the classification and parameter values of items to determine interchangeability is absent in Kavanagh, the prior art, and not suggested by the prior art.

Kavanagh does not teach the use of a compact item descriptor as the description of the item or other data element in databases to determine interchangeable items or to access associated data for the items. Use of the representation of the classification and parameter values of an item as the description of an item for systematic processing is absent in Kavanagh, the prior art, and not suggested by the prior art.

Summary

The Drawings for Figures 1-3 have been amended to include numbers with corresponding amendment to the specification. Sheet 5 and sheet 6 have been added to illustrate the SQL tables that document the claims/

The Claims have been amended to remove the 35 U.S.C. 101 and 112 issues identified by the Examiner and additional amendments were made for issues identified by the inventor.

For 35 U.S.C. 103, Bluttinger and Kavanagh are examples of the prior art as described in the specification of the present invention.

Encoding the classification of an item as a compact string; encoding parameter values of a leaf as a compact string; forming a compact description string for an item by concatenating the encoded classification with encoded parameter values; systematic comparison of the compact description to a compact description stored in a catalog database to determine an item match or to determine the interchangeability of two items; use of the representation of the classification and parameter values of an item as the description of an item for systematic processing and access in databases; and access with partially matching query arguments are all absent in Bluttinger and Kavanagh the prior art and not suggested in the prior art.

10/602,301 Compact Item Descriptor, Catalog System and Item Part Number Validation Patent Application
Confidential N. K. Ouchi Page 4 of 19

The present invention provides significant functions absent in the prior art including those that currently require manual processing or multiple database accesses with complex processing. The present invention provides automatic processing of item information, usually the item description, currently stored as free form text that requires tedious, error prone, manual processing for key steps of the materials management processes.

The present invention is significantly different from that taught by the prior art and serves a very useful purpose. The claims have been amended to point out and distinctly claim this subject matter as described.

Claims are grouped as claims 1-8, 10-11, 32-34; 25-28; 29-31 where claims 1, 25, and 29 are independent claims. Claims 32 -34 are new.

The inventor is happy to send a Word file which displays both mark-up and final form. Please send an e-mail to Ken.Ouchi@Avidtecs.com and a reply e-mail with the file will be sent.

The inventor appreciates the Examiner's thorough search and thoughtful response. Please call the inventor after reading his response so we may discuss any concerns.

Respectfully Submitted



N. K. Ouchi, Inventor

Phone 408-757-5862